

**I. Rejection of Claims 1-3, 5, 6, 8, 10, 11-13, 15, 16, 18, and 20 under 35 U.S.C. §102**

The Examiner has rejected Claims 1-3, 5, 6, 8, 10, 11-13, 15, 16, 18, and 20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,255,154 B1 to Akaishi, *et al.* (Akaishi). Presently, newly amended independent Claims 1 and 11 include the elements of forming a lightly-doped source/drain region using only a first dopant and then creating a gate over a lightly-doped source/drain region. In contrast to the Examiner's beliefs, Akaishi fails to teach such an element.

Akaishi is directed to method of manufacturing a semiconductor device which can satisfy the requirements of reduced "on" resistance. Initially, it should be noted that what the Examiner believes is an LDD region is actually a drift region 22. As discussed at column 4, lines 15-18, "the N-type impurities serve to form an N layer 22 constituting a drift region in later steps." Therefore, layer 22 does not constitute a lightly doped source/drain region but a drift region.

In actuality, Akaishi specifically teaches that its LDD structures are formed after formation of the gate 7A, however, prior to forming the side wall spacers 36. (See, FIGURES 6-8 and associated description at column 6, lines 13-50). This step is in direct contrast to what is presently claimed in independent Claims 1 and 11. As recited above, independent Claims 1 and 11 require that the gate be created over the lightly-doped source/drain regions. By nature, this requires that the lightly-doped source/drain regions be formed prior to formation of the gate. Such is clearly not the case in the Akaishi reference.

However, assuming arguendo that the drift region of Akaishi could be considered a lightly-doped source/drain region, it requires both an Arsenic and Phosphorous dopant for creation thereof. (See, column 4, lines 9-22, FIG. 2 of the Akaishi reference) As Akaishi requires at least two dopants to form its drift region and the newly amended Claims 1 and 11 require that only a single

first dopant be used for the formation of its lightly-doped source/drain regions, Akaishi fails to teach this element.

Therefore, Akaishi does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claims 2-3, 5, 6, 8, 10, 12-13, 15, 16, 18, and 20 are dependent upon Claims 1 and 11, Akaishi also cannot be an anticipating reference for Claims 2-3, 5, 6, 8, 10, 12-13, 15, 16, 18, and 20. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to these Claims.

## **II. Rejection of Claims 4, 7, 9, 14, 17, and 19 under 35 U.S.C. §103**

The Examiner has rejected Claims 4, 7, 9, 14, 17, and 19 under 35 U.S.C. §103(a) as being unpatentable over Akaishi. As established above, Akaishi fails to teach each and every element of independent Claims 1 and 11. Similarly, Akaishi fails to suggest each and every element of independent Claims 1 and 11. As Akaishi specifically teaches that its drift region is formed using at least two dopant types, Akaishi fails to suggest that only a single first dopant be used for the formation of its lightly-doped source/drain regions, as required by independent Claims 1 and 11.

Thus, Akaishi fails to teach or suggest the invention recited in independent Claims 1 and 11 and their dependent claims, when considered as a whole. Accordingly, it fails to establish a *prima facie* case of obviousness with respect to Claims 4, 7, 9, 14, 17, and 19. Claims 4, 7, 9, 14, 17, and 19 are therefore not obvious in view of Akaishi.

In view of the foregoing remarks, the cited reference does not support the Examiner's rejection of Claims 4, 7, 9, 14, 17, and 19 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner withdraw the rejection.

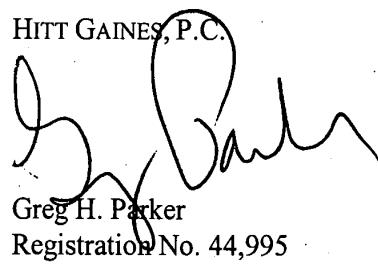
### III. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-20.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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